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Source: *Studia Leibnitiana*, Bd. 24, H. 2 (1992), pp. 145-159
Published by: Franz Steiner Verlag
Stable URL: http://www.jstor.org/stable/40694214
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Metaphysics and the Eucharist in the Early Leibniz*

By

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Résumé

Cet article essaie de reconstruire les raisons complexes des changements successifs dans la relation entre le métaphysique de Leibniz dans ses écrits de jeunesse et son intérêt personnel dans l'apologétique et la réunion des Eglises. Je soutiens que, tandis que l'effort primitif de Leibniz pour lier l'intelligibilité de la Philosophie Mécanique au théisme le porta à mettre l'accent sur Dieu comme Moteur Premier, son désir croissant de défendre l'intelligibilité de la Transubstantiation inspira le développement d'analyses métaphysiques plus poussées sur les sources de la substantialité et sur les modes de l'union divine avec le monde. Cependant, l'éveil de préoccupations mathématiques, physiques et théologiques plus amples lors du séjour de Leibniz à Paris crea une tension croissante entre la direction prise par sa métaphysique et son désir de défendre la Transubstantiation. J'explore les raisons de cette tension et les relie au développement du principe d'équipollence et à la place de plus en plus centrale occupée dans la pensée leibnizienne par l'intelligibilité et l'autonomie de la nature.

1. Introduction

In his recent book, *Leibniz and Arnauld*, Robert Sleigh has noted that the *Discours de métaphysique* was intended as part of Leibniz's project to reunify Catholics and Protestants – a project which Leibniz pursued with varying optimism throughout his life[1]. In fact, the reunification of the churches, both Catholic and Protestant, was part of larger apologetic concerns which motivated Leibniz from the earliest stages of his philosophical career. These larger concerns included: demonstrating the metaphysical unintelligibility of the Mechanical Philosophy based on non-theistic underpinnings; a philosophical defense of Christian rationality; and establishing a philosophically grounded methodology for resolving theological disputes. As part of his general defense of Christianity and his efforts at ecclesiastical reunion, the Eucharist remained a philosophical concern for Leibniz from the 1660's to the end of his life. Each stage of his philosophical development and every modification of his system, was accompanied by an explanation of the Eucharist and a demonstration that his metaphysical system is compatible with Transubstantiation. These explanations and demonstrations aimed simultaneously at defending the rationality of belief in the mysteries of the faith, at providing a neutral philosophical

* My thanks to Ray Herbenick for comments on an earlier draft of this paper.

[1] See R. Sleigh: *Leibniz and Arnauld. A Commentary on Their Correspondence*, New Haven/London 1990, p. 10. There is a vast literature which discusses Leibniz's reunion project. See for example, G. Ally: *Leibniz et l'union des églises*, in: *Revue trimestrielle canadienne* 28, pp. 16–36; J. Baruzi: Leibniz et l'organisation religieuse de la terre, Paris 1907; L. A. Foucher de Careil: Leibniz: *Œuvres*, vols. I and II, Hildesheim 1969; F. Gaquère: *Le dialogue irénique Bossuet-Leibniz*, Paris 1966; G. Grua: *Jurisprudence universelle et théodicée selon Leibniz*, 2 vols., New York/London 1985; G. J. Jordan: *The Reunion of the Churches*, London 1927; F. X. Kiefl: Der Friedensplan des Leibniz, Paderborn 1903; E. Michaud: *Leibniz et l'eucharistie*, in: *Revue internationale de théologie* 10, pp. 693–712; A. Pichler: *Die Theologie des Leibniz*, 2 vols., Hildesheim 1965; P. Wiedeburg: *Der junge Leibniz. Das Reich und Europa*, 2 vols., Wiesbaden 1962.

Studia Leibnitiana, Band XXIV/2 (1992)
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analysis of the metaphysical meaning of the Eucharist, and at showing the superiority of his own philosophy over that of the Cartesians who had suffered censure because of the unorthodoxy of their own explanations of Transubstantiation[2].

While considerable attention has been given to the role of the Eucharist in developing a conception of composite substance in the correspondance with Des Bosses[3], the influence of these larger apologetic concerns (especially his work on the Eucharist and Transubstantiation), on Leibniz's early metaphysics has gone largely unnoticed. The aim of this paper is to analyse these influences on the early Leibniz, with the story of the middle period to be accomplished elsewhere[4]. In what follows, it will be argued that around 1668 there was a recognizable and important shift in Leibniz's approach to apologetics. Prior to this, Leibniz was primarily interested in defending Theism against some of the materialistic implications of the Mechanical Philosophy, but he seems to have decided that it was necessary to defend a specifically Christian Theism. This new approach required some way of showing that belief in the Christian mysteries was rational. As a Lutheran, Leibniz knew his own church held to a real presence of Christ in the Eucharist and was convinced that this was the intended meaning of Christ's own pronouncements. However, Leibniz's metaphysical analysis of the meaning of real presence convinced him that it was indistinguishable from Transubstantiation. As a consequence Leibniz then incorporated a justification of Transubstantiation as part of his apology for Christianity. The attempt to explain Transubstantiation had the initial effect of deepening Leibniz's metaphysics and stimulating some important developments in his account of corporal and mental natures. However, as Leibniz became increasingly concerned with mathematical physics and as his metaphysical views took on a life of their own, his explanations of Transubstantiation became less and less important in the development of his own metaphysical views, and were reduced to an obligatory parameter within which he exposited his system in order to show compatibility between his own philosophy and Roman Catholic orthodoxy.

2. Apologetics and Positive Theology

Leibniz's attitude toward the doctrine of Transubstantiation must be seen against the background of his general views about positive theology[5]. Leibniz consistently emphasized the importance of a distinction between beliefs necessary to salvation and beliefs pertaining to religious practice. One of Leibniz's earliest writings on this subject was the

[2] Excellent discussions on the controversy surrounding Cartesian treatments of the Eucharist and the resulting censure of Cartesianism can be found in J. R. Armogathe: *Theologia Cartesiana*, The Hague 1977; S. Nadler: *Arnauld, Descartes, and Transubstantiation*, in: *Journal of the History of Ideas*, pp. 229ff.; W. Rex: *Essays on Pierre Bayle and Religious Controversy*, The Hague 1965; R. Watson: *Transubstantiation Among the Cartesians*, in: T. Lennon, J. Nicholas, and J. Davis (eds.): *Problems of Cartesianism*, Québec 1982, pp. 127–148.

[3] See, for example, Y. Belaval: *Leibniz. Initiation à sa philosophie*, Paris 1984; Chr. Frémont: *L'être et la relation*, Paris 1981.

[4] As Leibniz's metaphysics developed further in the period of the *Discours de métaphysique* and the *Systema Theologicum* (*Theologisches System*, transl. C. Haas, Hildesheim 1966), Leibniz continued to claim that his system was compatible with Transubstantiation, but no longer had the metaphysical elements required to give such an account.

[5] Leibniz's late views on positive theology are discussed in A. Boeckh: *Leibniz in seinem Verhältnis zur positiven Theologie*, in: F. Ascherson (ed.): *August Boeckh's gesammelte kleine Schriften* II, Leipzig 1859. The later views discussed by Boeckh do not significantly differ from Leibniz's early position.

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Commentatiuncula de Judice Controversiarum (1669–1671), which set forth a methodology for settling religious and philosophical differences. There Leibniz was concerned that by equating faith with orthodoxy of belief the sincere Christian might be excluded from the community of faith. He argued that "if someone considers a distinct knowledge of the meanings of the mysteries of faith necessary to salvation, then [he, Leibniz] will demonstrate that scarcely one thousandth of Christians will be saved" (A VI, 1, 552). Against the view that theological orthodoxy should be the criterion of salvation, he insisted that beliefs necessary to salvation must be contained in the words of scripture itself rather than being derived from them with the help of theological coniderations (A VI, 1, 548). Since many scriptural propositions are unclear, this meant that the believer could only be required to hold that their genuine meaning, whatever that may be, is true. Further the believer, who is necessarily in a position of ignorance about the precise meaning of scriptural pronouncements, is not to reject any of these possible interpretations of the proposition, even though they may be regarded as doubtful (A VI, 1, 550f.).

Among the beliefs which it thus becomes illegitimate to insist upon are the unity and trinity of God, the nature and person of Christ, predestination and the real or substantial presence of Christ in the bread and wine (A VI, 1, 548). With regard to the Eucharist, Leibniz asserted that it is only necessary to believe that in some sense the bread and wine contains the body of Christ, without a decision about "whether the bread is made the body of Christ, or the body of Christ is contained in the bread" (A VI, 1, 551)[6]. In thus emphasizing that the orthodoxy of one's theological position is not an appropriate criterion for salvation, Leibniz did not mean to argue that one may never strongly believe in a particular theological interpretation of an unclear statement of scripture. Rather he meant to argue that one must always retain a certain openness to disagreement about particular interpretations, and this was an outgrowth of his irenic ambitions. His objection to emphasizing theological orthodoxy as a requirement for membership in the body of Christ was that it inevitably leads to division.

It may appear that this belittlement of speculative theology would make apologetics difficult, if not impossible. After all, in a religion where many, if not most, beliefs are in propositions with indistinct meanings, how will one know what position to defend? It is significant that the usual form of Leibnizian apologetics was a defense of the logical and metaphysical possibility of those positive doctrines which he also held to be in some sense "optional". This again reflects Leibniz's irenic ambitions. A realistic program for reunification must not proceed by showing that the beliefs of one party are valid at the expense of the beliefs of the other. Rather, as far as possible, each party must be shown to have beliefs which are in some sense defensible[7]. The only absolute standard must be compatibility with scriptural pronouncements and the absence of logical and metaphysi-

[6] In *De Unitate Ecclesiae Romanae* (1669–1671) Leibniz linked the view that theological orthodoxy is a requirement for salvation to ulterior political motives in the Roman Church. There he argued that the so-called unity of the Catholic Church "is not true unity, but only an imitation of unity through a certain exterior political syncretism" (A VI, 1, 547).

[7] This explains Leibniz's defense of Catholic practices against Protestant criticism. For example, Leibniz gave laborious arguments and logical analyses to show that the Protestant claim that the Catholics worship the host and thus engage in idolatrous practices is based on a misunderstanding. See, for example, *De Schismate* written in 1683 (A IV, 3, 251) and *De Hostia* of 1677 (VE 2, 227).

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cal impossibility. Leibniz's earliest discussions of the Eucharist had precisely this orientation[8].

While Leibniz later worked for the reunion of various Protestant sects, his labors were more particularly aimed at unifying the Catholic and Lutheran Churches until at least the early 1680's. During this period Leibniz, in a manifestation of his famous optimism, believed that he could demonstrate that the Lutheran position that Christ is really present in the host does not differ from the Catholic doctrine of Transubstantiation. Luther's own position had been that the words of Christ must be believed, so that the wine and bread are in some sense Christ's body, but that the attempt to explain this real presence through the introduction of Scholastic notions of substance and accident must be avoided[9]. In *De Demonstratione Possibilitatis Mysteriorum Eucharistiae* (1671?) Leibniz asserted that the goal of the apologist is to defend beliefs in the mysteries of the faith by demonstrating their possibility, that is by showing clearly and distinctly that such things could occur through the power of God (A VI, 1, 515). In pursuing a defense of the Lutheran position on the Eucharist through metaphysical analysis, Leibniz reported that he made a surprising discovery.

> "I, who am a follower of the Augustinian Confession, labored to demonstrate the possibility of a real presence, but I came unexpectedly to the same result as Transubstantiation and to the conclusion that in the final analysis Transubstantiation and real presence amount to the same thing, so that the dispute in the church only exists because one side is not understood by the other" (A VI, 1, 515).

Given the fact that Luther's objection to Transubstantiation had been that it involves a metaphysical explanation of real presence, it is not entirely clear that Leibniz had discovered compatibility between Catholics and Lutherans. It would be more accurate to say that he rejected Luther's attitude towards metaphysical analysis of the Eucharist. However, Leibniz believed that he had untied the central knot of the dispute, so that the only remaining questions were "whether, as the Augustinian Confession teaches, the real or transubstantiated presence [...] is momentaneous, not lasting beyond the moment of use," or "whether it begins at the time of consecration and lasts until the corruption of the species, as taught by Rome". Since these issues are only relevant to religious practice, and since both positions are equally possible, Leibniz regarded the final resolution of these differences as trivial (A VI, 1, 516).

Leibniz did not indicate when he made this discovery of the equivalency of Lutheran and Catholic positions. However, from 1668 on he standardly accompanied expositions of his metaphysical system with demonstrations of the possibility of Transubstantiation. Significantly, it was around this time that he began to receive commissions from Boineburg, a converted Catholic who shared Leibniz's desire for Church reunion[10]. After Boineburg's death, Leibniz revealed his view that Transubstantiation is of central meta-

[8] For an interesting and thorough discussion of Leibniz's treatment of problems in the epistemological status of the Christian mysteries, see M. Dascal: *Reason and the Mysteries of Faith. Leibniz on the Meaning of Religious Discourse*, in: *Leibniz. Language, Signs and Thought*, Amsterdam/Philadelphia 1987, pp. 93–124.

[9] Luther's views about the Lord's Supper were rather complex and not always conistent. For a discussion of the evolution of Luther's position see S. Hausammann: *Realpräsenz in Luthers Abendmahllehre*, in: *Studien zur Geschichte und Theologie der Reformation*, Neuenkirchen-Vluyn 1969, pp. 157–173.

[10] For a sketch of Leibniz's early associations with Boineburg see E. J. Aiton: *Leibniz. A Biography*, Bristol/Boston 1985.

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physical importance in a letter to Duke Johann Friedrich. In this letter of 1679 Leibniz proposed the revival of a project he had earlier pursued for Boineburg, a work to be entitled *Demonstrationes Catholicae*. This work was to be written in three parts, the first giving demonstrations of the existence of God and the soul, the second giving proofs of the possibilities of the mysteries, and the third dealing with the relations between the Church and the state. It was to be accompanied by a preface which would include a new logic dealing with "the art of weighing probabilities and discovering to which of two sides the balance tips", and was also to include a treatment of metaphysics clarifying the notions of "God, the soul, person, and the nature of substance and accidents". In particular the metaphysical discussion would aim to reestablish and intelligibly explain Transubstantiation through

> "the substantial forms that the Cartesians claim to have destroyed as inexplicable chimeras, to the prejudice of our religion whose mysteries would be only impossibilities if the nature of bodies consists of extension alone" (A VI, 2, 225).

The passage above links Leibniz's metaphysics quite directly with a defense of the Eucharist. It suggests in itself that Leibniz's early metaphysical investigations were at least partly motivated by problems posed by Transubstantiation which were part of his overall apologetic concerns and the desire to reunify Catholics and Lutherans. This influence on Leibniz's early metaphysical development is reflected both in the resulting deepening of his metaphysical views and in the consistency with which he makes explanations of Transubstantiation a standard feature of his metaphysical expositions.

3. From Apology for Theism to Eucharistic Metaphysics

In *De Arte Combinatoria* (1666), Leibniz's primary religious interest was to show that the Mechanical Philosophy cannot dispense with theological underpinnings. To accomplish this he attempted to link God and the science of motion[11] by arguing for the necessity of a First Mover. Leibniz began with a series of definitions in which God was characterized as "an incorporeal substance of infinite power" and the general concept of a substance as "whatever moves or is moved". His third definition specified that the term "infinite power" is intended in distinction from secondary powers or causes: infinite power is the original potentia to move the infinite, while other causes operate by virtue of this infinite power. Assuming the Aristotelian principle that every moving body is moved by another, he then forced a choice between the following explanations of motion: (1) Because a continuum is infinitely divisible, any body is composed of an infinity of parts. Only an infinite power can move an infinity. Consequently if body, A, is in motion, then it must be moved by an infinite power which can belong only to God; or (2) Body A is moved by another body B. Either B is moved by an incorporeal infinite power or the universe is an infinite whole in which bodies continuously move each other. But if the infinite whole has parts in motion, then the whole itself is in motion. Since it has been assumed that whatever moves is moved by something other than itself, the whole itself can only be in motion through that which moves it – something with infinite power, namely God (A VI, 1, 169–171).

[11] While Leibniz thus linked himself with the Mechanical Philosophy, it is interesting to note that even at this early stage he distinguished his own concept of bodies from the Cartesian account by specifying that the quantitative aspects of bodies do not constitute their essence, but rather an absolute or relative affection (A VI, 1, 170).

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Significant in this discussion are the lack of concern with profound metaphysical analysis of bodies, the very limited metaphysical role assigned to God, and the failure to intimately specify the nature of God's relation to and union with individual substances. Leibniz's apologetic strategy was confined to establishing a link between mechanics and theology through the necessity of a first power. But the metaphysical depth of his analysis, as well as the role he assigns to God, changed character in the *Demonstrationes Catholicae*, which was to include a defense of Transubstantiation. In these essays the discussion focused around a new set of metaphysical problems which were precisely those one would expect to arise in a defense of Transubstantiation: the conditions of substantiality, the ontological status of accidents, and the nature of substantial union, substantial change, and multipresence.

In *De Transsubstantiatione* (1668 ?), intended as part of the never completed *Demonstrationes Catholicae*, Leibniz changed the conditions of substantiality from "whatever moves or is moved" to that which is self-subsistent and has its own internal principles of action. Substance, which Leibniz identified with the Scholastic suppositum [12], was now defined as a substantial individual which is a source of action (A VI, 1, 511). That inanimate bodies are not such substantial individuals is clear from his letter to Thomasius of September 26, 1668. There he wrote that the inner and first form of bodies is that mathematically describable figure which arises from the joining through motion of its figured parts. The form or mathematical characterization of bodies is both the source of and distinct from sensory perceptions of bodies which are always relative and imperfect, as are the perspectival variations of a city through which one walks. The sensory qualities, which are defective perceptions of that which can be most perfectly described through mathematics, are called accidents. While Leibniz called mathematical figure the form of bodies, he did not mean to say that bodies are essentially only extended[13], for bodies are both "matter and form". Nor did he mean to imply that the substantiality of bodies has been established by this characterization, for a substance must have its own principle of motion and it is precisely this which bodies lack:

> "Since body is nothing more than matter and figure, and a cause of motion cannot be understood from matter and figure, the cause of motion is necessarily outside body[14]. And since nothing outside bodies is conceivable except a thinking being or mind, this will be the cause of motion."

Bodies, taken in themselves, are insubstantial not only because they lack a principle of motion, but because the action of a body is motion or change of place. Since a body is individuated by the place it occupies, a body in motion does not persist temporally

[12] The doctrine of the suppositum is given lengthy discussion by Suarez in the thirty-fourth disputation of *Disputationes Metaphysicae, De Prima Substantia, seu Supposito eiusque a Natura Distinctione* (F. Suarez: *Opera Omnia*, 28 vols., Paris 1867).

[13] This was particularly clear in a later letter to Thomasius of the same year in which Leibniz wrote that "the essence or form of corporeity is antitypia or impenetrability" which is first matter or mass itself. The extension of a body derives from the space which it fills so that corporeal extension is not to be considered an essential part of the body itself (A II, 1, 14).

[14] In his letter of April, 1669 Leibniz explained to Thomasius that "while form is a certain cause and principle of motion, it is not first [cause and principle]. A body would not be moved except by an extrinsic mover [...]. For example, let there be a globe on a plane. If it once rests in itself it will remain eternally unmoved, unless it receives an extrinsic impulse [...]. I claim that the body itself is the principle of motion in another body. But the first principle of motion is principally and really form apart from matter (which is at the same time the efficient cause) namely mind" (A II, 1, 20).

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because its haecceity alters as it continuously changes place (A VI, 1, 508)[15]. The substantiality of bodies must then arise from something outside bodies which is able to act without change of essence (A VI, 1, 510). Leibniz insisted that it would be foolish to introduce into bodies "some I know not what incorporeal substantial forms and quasi-spirits by which the body can move itself". This would be to repeat the mistakes of the Scholastics and to remove the best way of demonstrating the existence of God within the context of the Mechanical Philosophy. So Leibniz proposed that the action and substantiality of inanimate bodies must be sought in in a divine mind and first mover – God (A II, 1, 10). When considered apart from union with the minds, bodies are mere accidents[16].

The claim that bodies are only substantial through their union with a concurrent mind, either human or divine (A VI, 1, 508 f.)[17] was accompanied by an analysis of the nature of the union of inanimate bodies with the divine mind. This analysis was essential to his defense of Transubstantiation, since God's general mode of union with inanimate bodies must be distinguished from the mode of Christ's union with the bread and wine. To make this distinction, he argued that in introducing motion into bodies, God acts creatively on ideas of body as existing in particular places and at particular times, thus both individuating them and substantializing them in some equivocal sense (A VI, 1, 509). A body conceived as figured matter in a place is a mere accident, because the idea of existence in a place contains no idea of activity (A II, 1, 14)[18]. To understand a body as a substance it must be conceived in relation to a principle of action, that is in relation to a mind which

[15] Leibniz's treatment of corporeal substances in *De Transsubstantiatione* was consonant with his views in *Confessio Naturae Contra Atheistas* which was written in the same year. In the latter Leibniz defined bodies as that which exists in space and argued that none of the primary qualities can be deduced from this definition. Using the Principle of Sufficient Reason he then argued that an incorporeal being – God – must be appealed to in order to explain the properties of bodies as we know them (A VI, 1, 489 ff.).

[16] Here Leibniz appears to have followed the general notion of accident used by Aquinas in his discussion of creation. Thomas argued that creation is in a sense an accident, namely "when we consider it as arising from the action of the agent, for the aforesaid relation is in some manner prior to its subject, because the [subject] is proximate cause of [the relation] like the divine act itself" [*De Potentia* III, 3 ad 2; Thomas Aquinas: *Opera Omnia. Secundum Impressionem Petri Fiaccadori Parmae* (1852 – 1873), New York 1949, p. 28). For a discussion of Aquinas on this point see J. F. Anderson: *The Cause of Being. The Philosophy of Creation in St. Thomas*, London 1952, pp. 41 ff.

[17] Leibniz's argument is as follows: (1) action is variation of essence; (2) the essence of a body is to exist in space; (3) variation of existence in space is motion; (4) therefore, if a body is a substance it will have its own principle of motion within itself; (5) since existence in space does not entail actual motion, a body does not have a principle of motion in itself; (6) consequently bodies taken in themselves are not substances because they have no inner principle of action (A VI, 1, 490 f., 508 f.).

[18] Leibniz also used perspectival variation to explain accidents by comparing the view of a figure from the perspectival point which generates it to deficient views of the same figure from other points (A VI, 1, 509). This was a repeated theme in the writings of Leibniz. For example in a letter to Thomasius written on September 26, 1668, Leibniz defined the form of a body as the figure of the whole body which arises from the motion and situation of its parts. The sensible qualities or affections of the body are the various appearances produced by the geometrical arrangement: "Those sensible qualities are thus held in the form of the thing itself as the variety of appearances are held in the position itself of a city which are varied by changing the position of the one who views it. What is seen appears to be in the thing as one looks down on the city from the highest turret. Hearing is similar and in the same level extrinsic to what is perceived. Touch is what one contacts near at hand when wandering around the streets of the city" (A II, 1, 11).

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moves it (A VI, 1, 509)[19]. And since inanimate bodies have no inner principle of action (A II, 1, 512), they must be conceived in relation to God (A VI, 1, 509).

While the substance of each inanimate body is thus located in its unique[20] union with the concurrent mind of God, this mode of union is distinguished from hypostatic union. Hypostatic union (as defined in *De Incarnatione Dei seu de Unione hypostatica*), occurs when a substance, which has its own internal principle of action, acts immediately through another thing to which it is united. God's union with the world or all bodies does not meet the requirements of this definition. God's action on bodies is the action of creation and annihilation which produces motion in bodies as they are recreated at different spatial locations[21]. Since creation is an action on God's concurrent ideas, not through or by means of them, God's normal mode of union with bodies is not hypostatic (A VI, 1, 534). Neither is God hypostatically united to the minds of created rational beings, because these minds have their own principle of action and are thus independent beings hypostatically united to their own bodies through which they act (A VI, 1, 511, 533). God is, however, hypostatically united to the mind of Christ which is the instrument whereby God acts on Christ's body in a mode which differs from creation (A VI, 1, 534).

These distinctions were introduced in order to allow Leibniz to explain substantial change in the Eucharist as the result of a change in the mode of God's union with the bread and wine. Whereas the untransubstantiated bread and wine were only united to God through the mode of creation or what Leibniz later called transcreation, Transubstantiation occurs when God is united to them through the mind of Christ – a mind through which God acts and to which, consequently, God is hypostatically united (A VI, 1, 509). This account does not require a change in the accidents of the bread and wine, because the mode of action introduced does not involve a change in external appearance (A VI, 1, 509).

Having discussed the foundation of substantiality, the nature of accidents, substantial union, and substantial change, Leibniz completed his defense of Transubstantiation

[19] Leibniz also wrote that "the ideas of God and the substances of things are the same thing, but different in relation as action and passion" (A VI, 1, 513). This bears interesting similarities to Plotinus' doctrine of ideas in *Ennead* V, 9 [5], 7, where he wrote: "No Idea is different from The Intelligence but is itself an intelligence. The Intelligence in its totality is made up of the Ideas and each of the Ideas is each of the intelligences [...]. The Intelligence is in itself. It possesses itself, is itself ever-unchanging abundance. If prior to being, it would be, by its thought and action, the begetter of being. But we are unable to conceive of existence not preceding what knows it. So it were better to say that the beings are the content of its thought, that its actual thought is as proximate to the beings as the act of fire is to fire so that they, in their inmost, are as proximate to The Intelligence as they are to their own proper act" (*The Essential Plotinus*, Sec. Ed., transl. a. ed. E. O'Brian, Indianapolis 1986, p. 53; set off by me). For Leibniz's familiarity with Plotinus and Proclus see J. Jalabert: *La théorie leibnizienne de la substance et ses rapports avec la notion de temps*, Paris 1956, p. 108.

[20] Leibniz specifically stated that there is not one substantial form for all bodies and that each body has its own individual substantial form which constitutes its nature. Bodies are individuated by space and time or motion and rest (A VI, 1, 511 f.).

[21] God's action in moving bodies must be annihilation and creation because bodies are individuated by spatio-temporal location. Consequently the motion of a body from one place to another results in a new body (A VI, 1, 508; *Confessio philosophi*, ed. a. ann. O. Saame, Frankfurt 1967, p. 124).

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through a discussion of how one substance can be present in different places. Since bodies are individuated by spatio-temporal location, it might seem that this Leibnizian account is incompatible with the simultaneous Transubstantiation of bread and wine in diversely located celebrations of the mass. But Leibniz believed he had solved this problem because of the manner in which a mind can be said to be present in the body to which it is hypostatically united. Such a mind is united to and spatio-temporally present in its body through the operations of thought upon it. Since minds are characterized by their multiplicity in union (the manner in which they can simultaneously think and will a diversity of things), a single mind can be present in many places at once. Consequently, the mind of Christ can be united simultaneously to many spatio-temporally discrete segments of stuff through the operations of thought (A VI, 1, 510).

4. From Eucharistic Metaphysics to Mathematical Physics

In the *Theoria Motus Abstracti* of 1671, which formed part of *Hypothesis Physica Nova* Leibniz further developed the analysis of mind-body relations initially set forth in the *Demonstrationes Catholicae*. However, here they were placed within the framework of a mathematical physics and the Mechanical Philosophy. While the earlier work on Transubstantiation directly motivated important metaphysical developments in the metaphysics of the *Demonstrationes Catholicae*, there was a subtle shift in the *Theoria Motus Abstracti*. In this later work, concerns about Transubstantiation were coupled with the development of a mathematical physics. The focus was now upon developing metaphysical entities which (when treated with Cavalieri's methods), can explain motion, cohesion, hardness, and which can provide laws of impact. While Leibniz took pains to show that his new system provided a way of explaining Transubstantiation (as well as mind-body unity), these concerns were no longer the primary motivating influences. This dual allegiance to a non-materialistic source of substantiality and to mathematical physics bore fruit in the notion of conatus.

Conatuses[22] are the indivisible constituents of body which are linked to thought. They are made necessary by two considerations. First, extended bodies cannot be coherently reduced to constituents which are themselves extended. There is no such thing as a minimum of extension because any extended being is by nature something from which a further portion can be again removed ad infinitum (A VI, 2, 264; A VI, 3, 97, 100). Consequently, the ultimate constituents of bodies must be unextended indivisibles. The second consideration follows the same lines as the *Confessio Naturae contra Atheistas* of 1668 where Leibniz argued that the essence of bodies is to exist in space, but that no reason could be derived from corporeal nature itself for why bodies occupy a particular place (A VI, 1, 490). In these later writings of around 1671–1672, he now argued that bodies are essentially in motion. Since motion as change of place is merely a mode of existence in space, that a body moves or changes place cannot explain why the body moves to occupy a particular location. Consequently, a body must exist in motion due to the action of something which acts in se – something whose action is something other than change of place and which is therefore unextended (A VI, 3, 74). That which substantializes and gives rise to bodies is then an unextended principle of motion which

[22] Because conatus is a noun of the fourth declension, so that the nominative singular has the same form as the nominative plural, conatuses shall be used as a plural form for purposes of clarity.

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produces conatuses. These conatuses are indivisibles of motion comparable to elements of instantaneous velocity (A II, 1, 173–175). They can also be understood as unextended efforts, forces or actions which constitute the infinitesimals of motion. These conatuses engender all corporeal properties, including extension (A II, 1, 172; A VI, 2, 265f.) and cohesion (A VI, 2, 256; GP I, 84). Leibniz attempted to mathematize mechanics by using Cavalieri's methods (A II, 1, 88)[23]: motion arises when an infinity of conatuses or momentary velocities are added together (A VI, 2, 264, 266)[24].

Having introduced the conatuses as metaphysical entities to be incorporated into a mathematical physics, Leibniz wrote to Arnauld in November of 1671, mentioning that he had read Arnauld's recent defense of the Catholic doctrine of the Eucharist (A II, 1, 170)[25]. Leibniz went on to suggest that the primary reason that Protestants have given a figurative interpretation to the words of Jesus at the last supper is that they do not wish to affirm impossibilities, such as that a body can be greater than itself, or that a body can exist under the quantity of a smaller body. The former impossibility is alleged to occur in propositions about the "multipresence" of Christ's body, i. e. that a single body can be simultaneously present in a variety of locations. The latter impossibility arises because of Cartesian claims that the essence of a body is extension. Under this view, the bread and wine are transformed into the body and blood of Christ even though all its parts and qualities remain unchanged[26].

Leibniz, here, as elsewhere, emphasized that the focus of Christian apologetics must be upon metaphysical and logical analysis demonstrating the possibility of the mysteries of

[23] For discussions of Leibniz's early mechanics see M. Gueroult: *Leibniz. Dynamique et métaphysique*, Paris 1967, pp. 8–20.

[24] For a further discussion of Leibniz's metaphysics of body and the mechanics of the Theoria Motus Abstracti see D. C. Fouke: *The Active Principles of Leibnizian Bodies in the Middle of the Paris Period*, in: *Leibniz. Tradition und Aktualität. V. Internationaler Leibniz-Kongreß, Hannover, 14. – 19. 11. 1988. Vorträge*, pp. 271–278, and *Leibniz's Opposition to Cartesian Bodies During the Paris Period (1672–1676)*, in: *Studia Leibnitiana* XXIII/2, 1991, pp. 196–207; J. Moreau: *L'univers leibnizien*, Hildesheim 1987, pp. 49–68.

[25] This work, entitled *La petite Perpétuité de la foi de l'Eglise Catholique touchant l'Eucharistie; avec la Réfutation d'un Écrit de M. Claude contre ce Traité . . .* (1967, Tome 12), was primarily a defense of the historicity of the Catholic doctrine rather than a philosophical treatment. For a discussion of Arnauld's own position on the metaphysics of the Eucharist and his sympathies for the Cartesian explanation see Nadler and Armogathe.

[26] Leibniz sounded this anti-Cartesian theme from his earliest writings on the Eucharist, consistently maintaining that Descartes' views make transubstantiation an impossibility. He apparently thought that he could take advantage of the considerable scandal that many theologians found in the explanations of the Eucharist given by Descartes and his followers in order to advance his own philosophy. While there have been excellent studies of the theological reception of Cartesian accounts, (e. g. J. Laporte: *La rationalism de Descartes*, Paris 1950; F. Bouillier: *Histoire de la philosophie cartésienne*, 2 vols., New York/London 1987; Nadler; Armogathe; Watson), little work has been done on the reception of Leibniz's views and its consequences for the acceptance of his philosophy. One interesting question is whether Leibniz would have succeeded in gaining the advantage over the Cartesians in his own treatment of the Eucharist had he made his position widely known. Given the variety and complexity of theological objections to the Cartesian account of the Eucharist and the degree to which these objections were centrally connected with the Thomistic position it is plausible that Leibniz would have been regarded as quite as unorthodox as the Cartesians. However since his writings on the subject remained unpublished in his life-time and the details of his position were not widely known the question cannot be answered with any certainty.

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the faith, and suggested that his own newly developed system provided the appropriate tools of analysis. The letter contains neither the details of such an analysis nor anything strikingly different from the earlier account in the *Demonstratio Catholicae*. His primary interest appears to be gaining acceptance of his newly developed system (or at least overcoming resistance), by the claim that his system is compatible with Roman Catholic orthodoxy. In this is evident a gradual shift: whereas his earlier metaphysical system developed partly out of an attempt to provide a metaphysical defense of Transubstantiation, by this time his interest was primarily in developing a metaphysical system to support a phoronomic mechanics. The compatibility of this system with Transubstantiation offered two benefits: (1) it was consistent with his apologetic ambitions and his plan for ecclesiastical reunion, and (2) it was an advertisement in its favor (over that of the Cartesians). In neither sense did the metaphysical problems of Transubstantiation any longer serve as a primary motivation, although (as will be shown), some features of the new system evolve out of the earlier work on Transubstantiation.

The mathematical physics which Leibniz introduced through his treatment of conatus was consistent with his apologetic goals and the metaphysical demands of the Eucharist, because conatuses arise from minds. This is confirmed by various comments which Leibniz made to his correspondents. On May 21, 1671 he wrote to Johann Friedrich that "as actions of bodies exist in motion, so the actions of minds exist in conatuses, or what I would call motion through minima or points" (A II, 1, 105). In his letter to Arnauld of November 1671, he wrote that "cogitation consists in conatuses as a body consists in motion" (A II, 1, 173). Since conatuses are the constituents of bodies and "the essence of a body does not consist in extension [. . .], but in motion, so also the substance or nature of bodies [. . .] is a principle of motion [. . .] which lacks extension" (A II, 1, 175). It is clear that Leibniz is asserting again that the substance of bodies is found in their relation to minds.

Minds are appropriate sources of motion, because they act without moving and thus retain the indivisible unity in multiplicity necessary to explain the systematic teleological harmony which governs corporeal phenomena[27]. One particular mind, the mind of God, is appropriate to bring bodies into existence and to generate those motions found in inanimate bodies, because God is that which harmonizes and unifies everything (A VI, 2, 282)[28]. With this link between corporeal phenomena and minds, as well as the distinction

[27] To Johann Friedrich, May 21, 1671, A II, 1, 108; A VI, 2, 282. In another letter to Johann Friedrich written in Oct. of 1671, Leibniz explained this unity in multiplicity by again appealing to the analogy of a perspectival point at the center of a circle: "In Natural Theology I can demonstrate from what I have discovered about the nature of physical motion that there can be no motion in bodies taken in themselves unless a mind is added; that there must be a final reason of things or universal harmony, i. e. God; [. . .] that a mind is incorporeal, that a mind acts in itself, that no action in itself is a motion, that no action of a body is other than motion, and that consequently a mind is not a body; that a mind consists in a point or center, and hence is indivisible, incorruptible and immortal. As all rays coincide in a center, so also all sensible impressions run to the mind through nerves, and as through its ideas a mind is a little world contained in a point, as a center, because it arises from its angles, has an angle as part of the center even though the center is indivisible, so that the whole nature of mind can be geometrically explained" (A II, 1, 159).

[28] Leibniz made this point repeatedly from 1671 to 1676. See for example, *De Vera Methodo Philosophiae et Theologiae ac de Natura Corporis* (1673–1675; A VI, 3, 158), *De Arcanis sublimium vel de Summa Rerum* (Feb. 11, 1676; A VI, 3, 473 f.), *De Motu et Materia* (April, 1676; A VI, 3, 493).

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between the essential nature of the two, Leibniz claimed that he could give a satisfactory explanation of Transubstantiation.

Leibniz gave two accounts of the Eucharist in the period immediately following his *Theoria Motus Abstracti*. One of these is found in the 1671 letter to Arnauld in which he briefly described his new metaphysical system; the other is found in *De Vera Methodo Philosophiae et Theologiae* which is dated 1673–1675 (?)[29]. In the latter, Leibniz repeated his claim that real presence, however interpreted, implies Transubstantiation,

> for whoever says that the body [of Christ] exists under the bread unknowingly asserts that the substance of the bread is destroyed while the species remain, as they will confess once they have understood the true and inevitable notion of substance (A VI, 3, 159).

Leibniz claimed that the correct understanding of substance is the one which he set forth in his earlier *De Transsubstantione*, namely a substance is that which has its own internal principle of action. Consequently, if a body is to be understood as a corporeal substance, then it must be viewed as an "extended agent", because "what does not act does not exist; for a potential for action without any beginning of action is nothing" (A VI, 3, 158). A body, considered only in its spatial extension, cannot then be a substance. It is only a substance when conceived in relation to the conatuses which engender its properties.

Here, as earlier, substantiality and consequently substantial change are determined by the mode of a body's union with a mental entity. Previously Leibniz had explained substantial change as an alteration in the mode of God's union with bodies. Here the account followed the same lines, except that Leibniz has introduced a new metaphysical entity, conatuses or a kind of force, to describe the connection between minds and corporeal activity. This force, whether the force by which God recreates bodies according to his ideas of them or the force exerted by a mind in using a body as an instrument, is associated with volition and called conatus. Since the substantiality of a body is in its union with the mind which is the source of the conatus, substantial change is explained as a change in mode of union or metousiasmos (A VI, 3, 159) which produces a new individuum (A II, 1, 170)[30].

Leibniz again emphasized that Transubstantiation requires the claim that bodies extended in different parts of space are the same body. If, as the Cartesians claimed, the essence of bodies were extension, then there would be no conceivable method of individuating bodies in such a way that they could transcend their immediate spatial location.

[29] G. H. R. Parkinson has pointed out to me that these dates are uncertain and conjectural, and that stylistic considerations as well as the content of this work were previously considered to show that the work was written in the first ten years of Leibniz's stay in Hannover. Thus it is important to note that the arguments for an earlier date are not conclusive but rest on probability. However, Leibniz's account of Transubstantiation in the *Systema Theologicum* is very different than his treatment in this early period (see D. C. Fouke: *Dynamics and Transubstantiation in Leibniz's Systema Theologicum*, unpubl.). The *Systema* is variously dated but generally placed around the time of the *Discours de métaphysique*. For these reasons I favor the earlier date.

[30] However, in the case of transubstantiation, the "species" of the host (which for Leibniz pertained to spatial locality), does change while the sense-qualities remain the same. The latter is inevitable because explaining Transubstantiation requires more than an account of substantial change and the retention of the sense-qualities of the bread and wine. If the bread and wine becomes substantially united to the body of Christ, then it will be necessary to say that the body changes its relation to space: the bread and wine which were previously confined to one location are united to that which is simultaneously present in a variety of locations.

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Consequently, Leibniz claimed that the Cartesian account required the belief either that philosophy is irrelevant to theology or that religion is contrary to reason (A VI, 3, 157). He insisted that Transubstantiation entails real polytopia or multipresence and that this was philosophically defensible according to his own principles (A II, 1, 169). Since in themselves minds are unextended and without local presence, "both minds and all substances exist in a place only through an operation". In this way the union of God with creatures and of minds with matter was to be explained. God is present in the creation as that which keeps creatures in existence and because "every power of acting arises through the operation of a highest mind whose will is the final reason of things and whose principle of willing is the universal harmony". A finite mind is incorporeal (A VI, 3, 158), but is present in a body because of the manner in which its volitions utilize the body as an instrument and the way in which the body is the mind's organ of sensory perception (A II, 1, 109, 162f.). Consequently, following Leibniz's earlier account in *De Incarnatione Dei seu de Unione hypostatica*, God's union with the Host was to be explained by a change in the mode of divine union. Prior to Transubstantiation God was united to the bread and wine in that mode by which God is united to all things. Afterwards God is also united in a mode specific to Christ's mind. Consequently, after Transubstantiation, the Father continues to act on bodies creatively, constantly sustaining them by creating them from moment to moment. However, the Son acts on the bread and wine instrumentally or by means of them, so that they are substantialized by the Son and can be truly called the body of Christ. On this account the Father is hypostatically united to the Son, and the Son is hypostatically united to the bread and wine. As in his earlier account Leibniz here claimed that since a mind is present in a place through operation on a body and because a mind can perform many operations at once, Christ can be substantially present in many disparate locations (A VI, 1, 510).

A change of substantiality need not produce a change in qualities, because the qualities do not truly "subsist" in the substantial nature. Here Leibniz appealed to the model of perspectival variation to distinguish between the intrinsic and extrinsic determinations of a thing. Sense-qualities arise because of a deficient exterior view of substances, and a change in the interior formal properties of a substance does not necessarily result in a change in the appearance of the substance when viewed from the "outside" (A II, 1, 170).

5. The Increasing Antagonism between Leibniz's Systematic Metaphysics and his Desire for Ecclesiastical Reunion

Leibniz's early metaphysics and natural philosophy were integrally related to a variety of religious concerns, but the nature of the relations varied even within this brief period. Prior to the *Demonstrationes Catholicae*, Leibniz equated Aristotelian forms with the mathematical figure of bodies which is produced by the motion of its parts (A II, 1, 10f., 16). As a result, his early efforts to link the intelligibility of the Mechanical Philosophy to theism resulted in an emphasis on God as First Mover. But as he became increasingly interested in defending the intelligibility of Christian claims about the Eucharist and in providing a way of settling doctrinal differences, Leibniz developed more profound metaphysical analyses of the sources of substantiality and modes of divine union with the world. The metaphysical distinctions and entities which he introduced in the *Demonstrationes Catholicae* and related writings were explicitly linked by him to the recovery of the substantial forms of Aristotle (e. g. A I, 2, 225). This was a natural linkage, because one of the primary theological objections to Descartes had been that his abandonment of these

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forms placed the intelligibility and defensibility of the Eucharist in jeopardy[31]. However, the result of using Aristotelianism to defend Transubstantiation was a shift from forms understood mathematically to forms as conceived as incorporeal sources of action which produce substantiality in bodies.

This understanding of forms as immaterial active principles was retained from immediately before the Paris Period (1672–1676) to the end of his life. However, his newly developed interest in mathematics and physics stimulated the development of a new metaphysical element, conatus which (as has been shown), provided a method for mathematically treating corporeal phenomena but which was also linked to minds. With this development Leibnizian metaphysics entered a new phase. Under the influence of a wider variety of concerns – mathematical and physical, as well as theological – his systematic metaphysics achieves a new autonomy and greater independence. Because he never ceased to be interested in apologetics and ecclesiastical reunion, he continued to provide demonstrations of the consistency of his system with claims of Transubstantiation; but Transubstantiation was no longer one of the primary metaphysical motivations. Further, as his metaphysical system matured, there was an increasing tension between his systematic metaphysics and his desire to show compatibility with Roman Catholic claims that the bread and wine of the Eucharist are Transubstantiated into the body and blood of Christ.

This tension between his metaphysics and his interest in apologetics and ecclesiastical reunion became increasingly acute after 1676. At that time while Leibniz still retained the initial commitment to minds as the source of substantiality which formed a central part of his defense of Christianity, he moved toward a view of nature which placed more emphasis on its intelligibility and autonomy. This occured with his introduction of the principle of equipollence in the *Meditatio de Principio Individui*. This principle required that an effect must involve or express the whole cause, so that perfect understanding of the effect will include understanding of how the effect was produced (A VI, 3, 490). Leibniz demonstrated that no account of bodies as merely extended or homogeneous beings could meet this requirement by using the example of the squareness of a body. In itself the shape bears no traces of what cause produced it, since it might have been produced by the joining of two parallelograms, or of two triangles, etc. For this reason Leibniz argues that every body must bear something in itself which can retain the marks of prior states. i. e. every body must have its own equivalent to a mind with memory (A VI, 3, 491). With this development Leibniz began to move towards his mature system in which all the objects of the world are filled mind-like entities. Since minds are sources of substantiality, the new Leibnizian universe was to be filled with substantialized corporeal entities.

6. Conclusion

This introduction of the principle of equipollence marked a decisive step for Leibniz. He never abandoned his efforts at apologetics and ecclesiastical reunion, and during the middle period he continued to claim that his system could be used to explain Transubstantiation. In fact, his *Systema Theologicum* provided a lengthy dynamical exposition of

[31] Nadler, p. 240.

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the Catholic position. However, once all bodies were assigned substantial natures and active principles, it became more difficult to explain how the bread and wine could be changed into the body and blood of Christ. In his earlier accounts Leibniz was able to appeal to the modes of union between God and inanimate bodies, because God directly substantialized those bodies. Consequently a change in God's manner of relating to those bodies was supposed to produce a change in their substantiality; but Leibniz specifically excluded the possibility that God is the substance of any body with its own principle of action (A VI, 1, 512). Once Leibniz placed active principles in bodies, as he did in the later dynamics, he was forced to draw on a new set of principles to defend and explain Transubstantiation. While he claimed that he found such principles in his dynamics, he eventually abandoned these claims because of inconsistencies between his metaphysical system and the demands of Roman Catholic doctrine[32]. Consequently, once the apologetic concerns which influenced some of his early metaphysical developments were linked with the principle of equipollence and its requirements, Leibniz found increasing difficulty in pursuing his initial strategy for ecclesiastical reunion. While he continued to labor for such a reunion, this goal became increasing at odds with his own metaphysical system.

[32] Leibniz abandoned his defence of Transubstantiation in the *Cogitationes Privatae* of the 1690 (Leibniz: *A System of Theology*, transl. C. W. Russel, London 1850, pp. 203f.). For a discussion of Leibniz's explanation of Transubstantiation in the *Systema Theologicum* see Fouke (unpubl.).

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